

WHAT IS CLAIMED IS:

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18. A blade holder for cutting machines, said blade holder comprising:
- a blade head secured at a lowering device and comprising a blade head housing having a chamber;
  - said blade head having a blade holding member adapted to receive a circular blade;
  - an advancing device mounted in said blade head housing;
  - said advancing device comprising an advancing piston rod and an advancing piston actuating said advancing piston rod;
  - said advancing piston rod acting on said blade holding member for moving the circular blade between a cutting position and a ready position
  - said advancing piston pneumatically actuated and mounted and guided in said chamber;
  - a pressure spring acting on said advancing piston rod to prestress said advancing piston rod into the ready position of the circular blade;
  - a pressing device loading said pressure spring in a direction of the cutting position of the circular blade;
  - said pressing device decoupled from said advancing piston rod.

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19. A blade holder according to claim 18, wherein said

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pressing device comprises a slide engaging said pressure spring and arranged between said advancing device and the circular blade, and further comprises a pneumatic drive for actuating said slide.

20. A blade holder according to claim 19, wherein said slide embraces externally the blade head housing and is guided at the exterior side of said blade head housing.

21. A blade holder according to claim 19, wherein said slide has a projection radially extending into said blade head housing, wherein said projection engages said pressure spring positioned in a recess of said blade head housing.

22. A blade holder according to claim 19, wherein said slide is a slide piston arranged in said blade head housing and loaded by said pneumatic drive.

23. A blade holder according to claim 22, wherein said pressure spring is supported at an inner side of said blade head housing and is fastened to said slide piston, wherein said slide piston pretensions said advancing piston rod into the ready position of the circular blade.

24. A blade holder according to claim 18, wherein said advancing piston is a diaphragm seated on said advancing piston rod, wherein said diaphragm rests in said chamber such that a circumference of said diaphragm seals against said blade head housing.

25. A blade holder according to claim 24, wherein said

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diaphragm is embodied as a rolling diaphragm.

26. A blade holder according to claim 24, comprising a pressure sensor positioned between said diaphragm and said circular blade and measuring a cutting force acting at the circular blade.

27. A blade holder according to claim 26, wherein said pressure sensor is arranged between said diaphragm and a side of said chamber proximal to said actuating piston rod.

28. A blade holder according to claim 27, wherein said pressure sensor is arranged between said diaphragm and a projection of said advancing piston rod.

29. A blade holder according to claim 26, further comprising a damping member positioned between said diaphragm and said blade holding member.

30. A blade holder according to claim 29, wherein said damping member is arranged between said diaphragm and a projection of said advancing piston rod.

31. A blade holder according to claim 30, wherein said damping member is arranged between said pressure sensor and said projection of said advancing piston rod.

32. A blade holder according to claim 30, wherein said advancing piston rod has a longitudinal axis and is divided transversely to said longitudinal axis into rod sections, wherein said damping member is positioned between said rod sections.

33. A blade holder according to claim 30, wherein said

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damping member is a shaped body comprised of elastic material.

34. A blade holder according to claim 30, wherein said  
damping member is a spring.

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